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08/250,770 05/27/94 KIM

Y P53706

EXAMINER

YOCKEY, D

ART UNIT

PAPER NUMBER

E1M1/0928

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/0

2108

DATE MAILED:

09/28/95

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☒ Responsive to communication filed on 6-27-95 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), \_\_\_\_\_ days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

**Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.                 | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152.       |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474.     | 6. <input type="checkbox"/> _____   |

**Part II SUMMARY OF ACTION**

1. ☒ Claims 1-24 are pending in the application.

Of the above, claims \_\_\_\_\_ are withdrawn from consideration.

2. ☐ Claims \_\_\_\_\_ have been cancelled.

3. ☐ Claims \_\_\_\_\_ are allowed.

4. ☒ Claims 1-24 are rejected.

5. ☐ Claims \_\_\_\_\_ are objected to.

6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☒ The proposed drawing correction, filed 7-27-95, has been ☒ approved; ☐ disapproved (see explanation).

12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.

13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

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**Part III DETAILED ACTION**

*Renumbering of Claims under 37 CFR 1.129*

1. Claims 18-25 have been renumbered as claims 17-24 because Applicant submitted no claim 17 with the original claims.

*Drawings*

2. The drawings are objected to under 37 C.F.R. § 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the AND gate must be shown or the feature cancelled from the claim. No new matter should be entered.

*Specification*

3. The disclosure is objected to because of the following informalities:

The "Cross Reference To Related Applications" section is inappropriate because a foreign priority document does not constitute a "related application" for purposes of this section; deletion of this section is respectfully recommended.

Page 7, line 12 through page 10, line 8 should be in the Background of the Invention section of the specification.

Appropriate correction is required.

*Claim Rejections - 35 USC § 112*

4. Claims 1-24 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims include recitations of means without specification of a function therefor; e.g. claim 5 recites "mode selecting means, but specifies no function therefor.

The claims include recitation of means with plural functions recited therefor; e.g. the data transmitting means and the printing control means in claim 1 each include plural functions.

The claims include inconsistent use of plural terms which apparently refer to the same thing; e.g. in claim 1, "converted data" and "video data" apparently refer to the same data.

The functional recitation that the beam detection signal is derived from the light beam is indefinite because it is not supported by recitation in the claim of sufficient structure to warrant the presence of the functional language in the claim; In re Fuller, 1929 C.D. 172; 388 O.G. 279.

It is not clear what element in the specification corresponds to the clock signal generating means recited in claim 23.

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*Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

6. Claims 1-24 are rejected under 35 U.S.C. § 103 as being unpatentable over the Applicant's admitted prior art in FIGS. 1, 2A-2D in view of Tomita et al. and Hayashi et al. 4,989,039.

The admitted prior art teaches the claimed invention except the chopping means.

Tomita et al. disclose chopping means 3 providing chopped data by dividing data from a data transmitting means 4 in accordance with a clock signal (STB) from the combination of pulse signal generating circuit 6 and pulse signal selection circuit 7, illustrated in detail in FIG. 11. The Tomita et al. chopping means 3 controls provision of beam data by a print control means 2, thereby changing the power level of a light

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source in array 1. The pulse selection input to pulse signal selection circuit 7 is deemed to be a mode selecting means and the pulse selection signal is deemed to be a dividing ratio component which is broadly interpreted as being a component of the input data, as it is data which must be input along with pixel data to operate the apparatus.

Hayashi et al. '039 teach that it is known in the art to change a power level of a light source in an electrophotographic developing type reproduction apparatus in accordance with changes in environmental conditions, thereby facilitating provision of an image forming apparatus capable of forming an image with satisfactory tonal rendition regardless of changes in environmental conditions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the Tomita et al. chopping means, pulse signal generating circuit and pulse signal selection circuit with the admitted prior art apparatus. The reason for the combination is to enable change of power level of the admitted prior art light source in accordance with changes in environmental conditions, thereby facilitating provision of an image forming apparatus capable of forming an image with satisfactory tonal rendition regardless of changes in environmental conditions.

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In the combination, the Tomita et al. clock signal (STB) is suggested to be higher frequency than the clock signal 52 from dividing unit 50, since this is necessary for the different frequencies to have an effect on power level of the light source.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to generate both the first clock signal and second clock signal by dividing a same clock signal from a single generator, particularly because it is known in the art to generate different clock signals by dividing a single clock signal, as evidenced by Tomita et al. FIG. 11. The reason for dividing from a single clock is to reduce the number of elements in the invention.

The steps of the method are deemed to be made clearly obvious by the functions of the structure of the combination discussed above.

*Response to Amendment*

7. Applicant's arguments filed 7-27-95 have been fully considered but they are not deemed to be persuasive.

In response to Applicant's argument concerning the recitation of a means with plural specified functions, it is noted that 35 USC § 112, sixth paragraph indicates that an element can be recited as a means for performing a specified

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function, not plural functions. Two or more functions do not constitute "a specified function."

Applicant's remaining arguments are deemed to be moot in view of the new grounds of rejection.

8. Any inquiry concerning this communication should be directed to David Yockey at telephone number (703) 308-3084.

  
DY

September 18, 1995

  
BENJAMIN R. FULLER  
SUPERVISORY PATENT EXAMINER  
ART UNIT 218